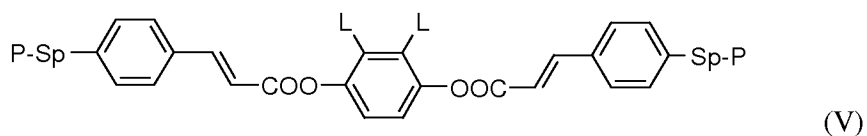
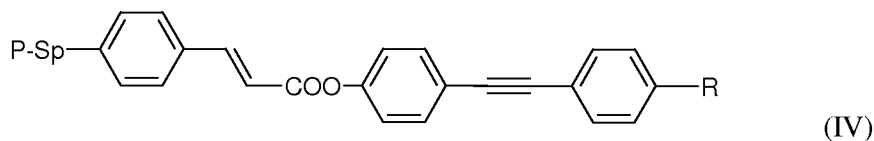
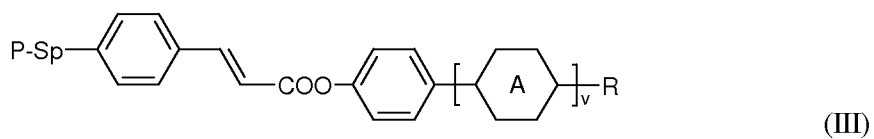


This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended): A film ~~Film~~ comprising a polymerised nematic or smectic liquid crystal (LC) material, said polymerised liquid crystal material comprising at least one photoisomerisable compound, and wherein ~~characterized in that~~ said film comprises at least two regions with different retardation of liquid crystal material, and/or at least two regions with different orientation of the ~~LC~~ liquid crystal material.
2. (Currently Amended): A film ~~Film~~ according to claim 1, wherein ~~characterized in that it~~ said film comprises at least two regions with different retardation of the ~~LC~~ liquid crystal material.
3. (Currently Amended): A film ~~Film~~ according to claim 1, wherein said film ~~it~~ is obtained by polymerisation or crosslinking of a polymerisable ~~LC~~ liquid crystal material comprising at least one polymerisable and photoisomerisable compound.
4. (Currently Amended): A film ~~Film~~ according to Claim 1, wherein ~~characterized in that~~ the orientation of the ~~LC~~ liquid crystal material is controlled by varying the irradiation time and/or intensity of the photoradiation used to cause photoisomerisation in the ~~LC~~ liquid crystal material.
5. (Currently Amended): A film ~~Film~~ according to Claim 1, wherein ~~characterized in that~~ the polymerisable ~~LC~~ liquid crystal material comprises one or more photoisomerisable compounds selected from azobenzenes, benzaldoximes, azomethines, stilbenes, spiropyrans, spirooxadines, fulgides, diarylethenes, cinnamates, 2-methyleneindane-1-ones and (bis-benzylidenecycloalkanones).
6. (Currently Amended): A film ~~Film~~ according to claim 5, wherein ~~characterized in that~~ the polymerisable ~~LC~~ liquid crystal material comprises one or more photoisomerisable compounds selected from polymerisable mesogenic cinnamates.
7. (Currently Amended): A film ~~Film~~ according to Claim 1, wherein ~~characterized in that~~ the polymerisable ~~LC~~ liquid crystal material comprises one or more photoisomerisable compounds selected from the following formulae



wherein

A is 1,4-phenylene or 1,4-cyclohexylene,

P is a polymerisable group,

Sp is a spacer group or a single bond,

R is a polar group or an unpolar alkyl or alkoxy group with up to 15 C atoms,

L is in each occurrence independently H, F, Cl, CN or an optionally halogenated alkyl, alkoxy, alkylcarbonyl, alkoxy carbonyl or alkoxy carbonyloxy group with having in each case 1 to 7 C atoms, and

v is 0 or 1 [[.]], and

~~and~~ wherein the phenylene rings are optionally mono- di-, tri- or tetrasubstituted by L.

8. (Currently Amended): A film ~~Film~~ according to Claim 1, wherein ~~characterized in that the polymerisable component of the said polymerised material is obtained from a polymerisable LC liquid crystal material having a polymerisable component,~~

and said polymerisable component comprises at least 12 mol % of photoisomerisable compounds.

9. (Currently Amended): A film ~~Film~~ according to claim 8, wherein characterized in that the polymerisable component of the polymerisable ~~LC~~ liquid crystal material comprises from 40 to 100 mol% of photoisomerisable compounds.

10 (Currently Amended): A film ~~Film~~ according to claim 8, wherein characterized in that the polymerisable component of the polymerisable ~~LC~~ liquid crystal material comprises 100 % of photoisomerisable compounds.

11. (Currently Amended): ~~Polymerisable LC material according to Claim 8~~ A polymerisable liquid crystal material for preparing a film comprising a polymerised nematic or smectic liquid crystal according to claim 1, said polymerisable liquid crystal material having a polymerisable component, and said polymerisable component comprising at least 12 mol % of photoisomerisable compounds.

12. (Currently Amended): A patterned ~~Patterned~~ film comprising polymerised nematic or smectic liquid crystal (LC)-material, characterized in that it wherein said film comprises at least two regions with different retardation and at least two regions with different orientation of the liquid crystal ~~LC~~ material.

13. (Currently Amended): A method ~~Method~~ of preparing a film according to Claim 1, said method comprising the following steps:

- a) providing a layer of a polymerisable ~~LC~~ liquid crystal material comprising at least one photoisomerisable compound onto a substrate,
- b) aligning said the layer of ~~LC~~ liquid crystal material into planar orientation,
- c) exposing the ~~LC~~ liquid crystal material in said the layer, or in selected regions thereof, to photoradiation to cause that causes isomerisation of said the isomerisable compound,
- d) polymerising the ~~LC~~ liquid crystal material in at least a part of the exposed regions the material, thereby fixing the orientation, and
- e) optionally removing the polymerised film from the substrate.

14. (Currently Amended): A method ~~Method~~ according to claim 13, wherein characterized in that the retardation and/or orientation of the ~~LC~~ liquid crystal material is

controlled by varying the amount and/or type of the photoisomerisable compound, and/or by varying the intensity of the photoradiation and/or the exposure time.

15. (Currently Amended): ~~A method~~ Method of preparing a multilayer structure comprising at least two layers of polymerised nematic or smectic LC liquid crystal material having different orientation, comprising ~~the following steps~~:

A) providing a first layer of a polymerisable LC liquid crystal material comprising at least one photoisomerisable compound onto a substrate,

B) aligning the first layer of LC liquid crystal material into planar orientation and polymerising the material, thereby fixing the orientation,

C) providing a second layer of LC liquid crystal material as described in ~~steps~~ A) and B), wherein the first layer serves as substrate,

wherein the LC liquid crystal material in at least one of said first and second layers, or in selected regions thereof, before polymerisation, is exposed to photoradiation to cause ~~that causes~~ isomerisation of the isomerisable compound.

16. (Currently Amended): ~~A method~~ Method according to Claim 13, wherein characterized in that the LC liquid crystal material is exposed to radiation that causes photoisomerisation and photopolymerisation, and photoisomerisation is carried out in the presence of oxygen and photopolymerisation is carried out in the absence of oxygen.

17. (Currently Amended): ~~A Film or a~~ multilayer structure obtained by a method according to Claim ~~15~~ 43.

18. (Currently Amended): ~~A film~~ Film or a multilayer according to Claim ~~13~~ 4, ~~characterized in that it~~ wherein said film comprises at least one region having planar orientation and at least one region having splayed orientation.

19 (Currently Amended): ~~A multilayer structure~~ Multilayer according to claim 17, ~~characterized in that it~~ wherein said structure comprises at least one layer having planar orientation and at least one layer having splayed orientation.

20 (Currently Amended): ~~A multilayer structure~~ Multilayer according to claim 17, ~~characterized in that it~~ wherein said structure comprises at least one layer having splayed orientation and at least one region having homeotropic orientation.

21. (Cancelled):

22. (Currently Amended): In an active matrix color liquid crystal display containing an optical retardation film, the improvement wherein said film comprises a patterned film having ~~Patterned film comprising~~ at least two regions having different retardation ~~for use as optical retardation film in an active matrix colour LCD.~~

23. (Currently Amended): In a liquid crystal display containing an optical retardation film, the improvement wherein said film is ~~LCD comprising~~ an optical retardation film according to Claim 1.

24. (Currently Amended): A display according to claim 23, wherein said ~~Use of a film according to Claim 1 as optical retardation film in an LCD, characterized in that the film~~ is positioned between the substrates of the switchable ~~LC~~ liquid crystal cell.

25. (Currently Amended): A liquid crystal display ~~LCD~~ comprising ~~an LC~~ a liquid crystal cell formed by two plane parallel substrates at least one of which is transparent to incident light,
an electrode layer provided on the inside of at least one of said two transparent substrates and optionally superposed with an alignment layer, ~~and~~
~~an LC~~ a liquid crystal medium located between the two substrates, and said medium ~~that~~ is switchable between at least two different states by application of an electric field, and ~~characterized in that the LCD comprises~~
at least one film according to Claim 1 ~~that~~ is positioned between the two plane parallel substrates forming the ~~LC~~ liquid crystal cell.

26. (Currently Amended): A liquid crystal display ~~LCD~~ comprising:

1) a liquid crystal (~~LC~~) cell comprising the following elements 11)-17), starting from the edges to the ~~centre~~ center of the cell in the following sequence ~~listed below~~

11) a first and a second substrate plane parallel to each other, at least one of which is transparent to incident light,

12) an array of nonlinear electric elements on one of said substrates which can be used to individually switch individual pixels of said ~~LC~~ liquid crystal cell, ~~said elements being preferably active elements like transistors, very preferably TFTs,~~

13) a ~~colour~~ color filter array provided on one of said substrates, ~~preferably on the substrate opposite to that carrying the array of nonlinear elements,~~ said ~~colour~~ color

- filter optionally being covered by a planarisation layer,
- 14) a first electrode layer provided on the inside of said first substrate,
 - 15) optionally a second electrode layer provided on the inside of said second substrate,
 - 16) optionally first and second alignment layers provided on said first and second electrodes, and
 - 17) an liquid crystal LC medium that is switchable between at least two different states by application of an electric field [[,]];
 - 2) a first linear polariser on one side of the liquid crystal LC cell,
 - 3) optionally a second linear polariser on the side of the liquid crystal LC cell opposite to that of the first linear polariser, and
 - 4) at least one optical retardation film according to Claim 1, ~~characterized in that~~ said optical retardation film 4) ~~is situated~~ being positioned between the ~~colour~~ color filter and the liquid crystal LC medium.

27. (Currently Amended): A liquid crystal display LCD according to claim 26, ~~characterized in that the~~ wherein said color ~~colour~~ filter has a pattern of different pixels transmitting one of the primary colors ~~colours~~ red, green and blue (R, G, B), and the optical retardation film exhibits a pattern of pixels with three different retardations, each of which is adjusted such that its efficiency of converting linearly polarised light into circularly polarised light is optimized ~~optimised~~ for one of the colors ~~colours~~ R, G and B, and the optical retardation film is positioned on the color ~~colour~~ filter such that each R-, G- or B-pixel of the color ~~colour~~ filter is covered by a corresponding pixel of the optical retardation film having a retardation optimized ~~optimised~~ for this color ~~colour~~.

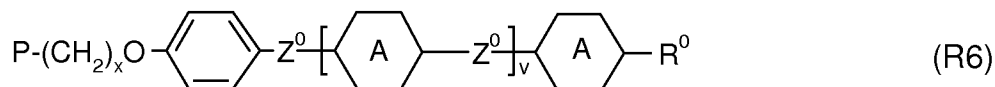
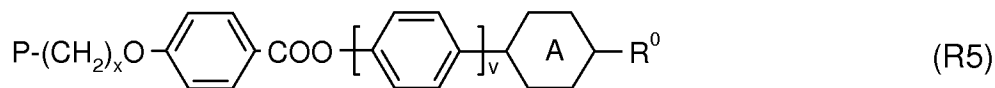
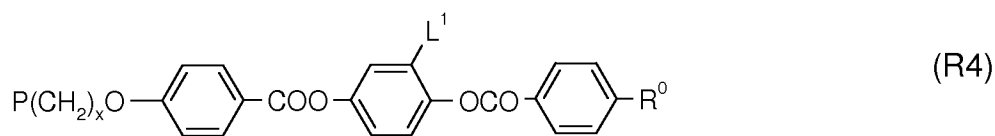
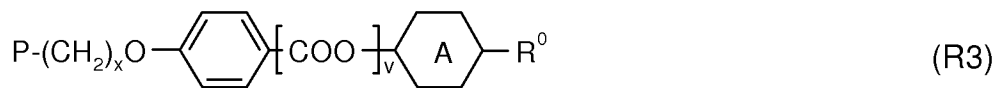
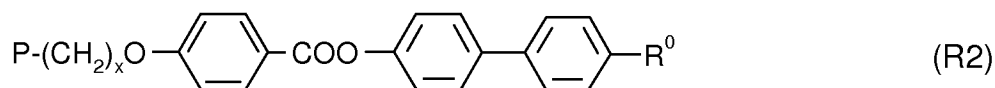
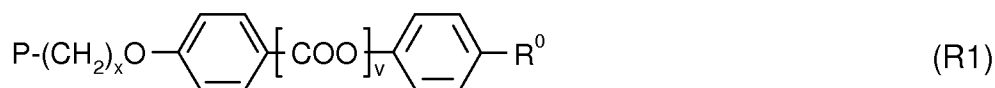
28. (Currently Amended): An optical ~~Optical~~ waveguide comprising a film according to Claim 1.

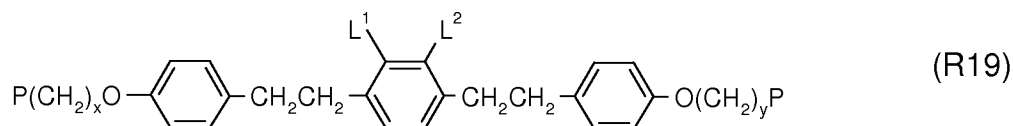
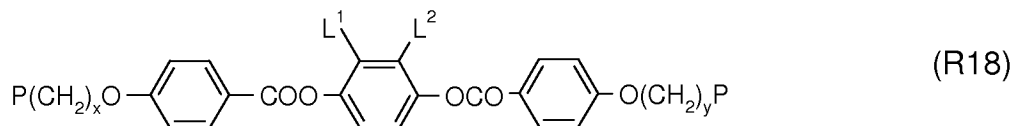
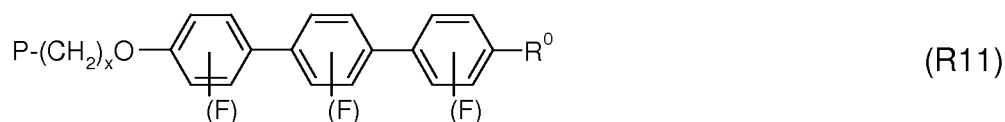
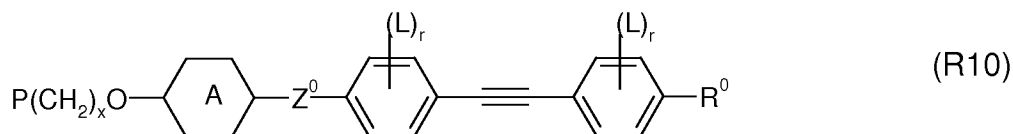
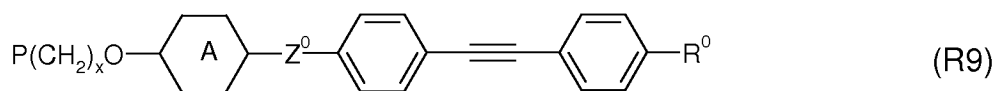
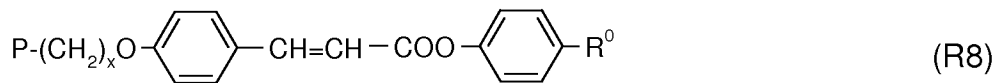
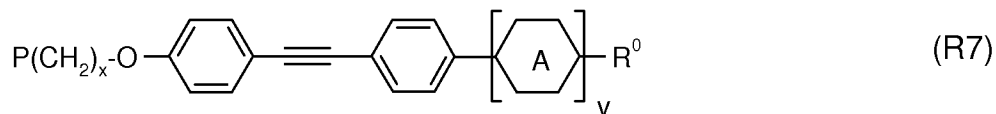
29. (Currently Amended): An optical ~~Optical~~ waveguide according to claim 28, ~~characterized in that~~ wherein said waveguide has constant thickness and a refractive index gradient wherein the refractive index continuously decreases in a direction parallel to the film plane from one edge of the waveguide to its opposite edge ~~edge~~.

30. (New): A film according to claim 1, wherein said film:

- (a) has a pattern of a first and a second region, wherein the first and said second region differ in both retardation and orientation;
- (b) has a pattern of a first, a second and a third region, wherein said first and second region differ in either retardation or orientation, and said third region differs in at least one of retardation and orientation from at least one of said first and said second regions; or
- (c) has a pattern of a first, a second, a third and a fourth region, each of which has a retardation different from each other region, and two of said regions have the same orientation.

31. (New): A film according to claim 1, wherein said polymerised liquid crystal material is obtained by polymerizing a mixture containing at least one polymerisable mesogenic compound selected from the following formulas:





wherein

P is a polymerisable group selected from acryl, methacryl, vinyl, vinyloxy, propenyl ether, epoxy, oxetane or styryl groups,

x and y are identical or different integers from 1 to 12,

A is 1,4-phenylene that is optionally mono-, di- or trisubstituted by L^1 , or 1,4-cyclohexylene,

u and v are independently of each other 0 or 1,

Z^0 is -COO-, -OCO-, -CH₂CH₂-, -CH=CH-, -C≡C- or a single bond,

R^0 is a polar group selected from F, Cl, CN, NO₂, OH, OCH₃, OCN, SCN, an optionally fluorinated alkylcarbonyl having up to 4 C atoms, alkoxycarbonyl having up to 4 C atoms, alkylcarbonyloxy having up to 4 C atoms,

alkoxycarbonyloxy group having up to 4 C atoms, or a mono- oligo- or polyfluorinated alkyl or alkoxy group with 1 to 4 C atoms, or is an unpolar group selected from optionally halogenated alkyl having up to 12 C atoms, alkoxy having up to 12 C atoms, alkylcarbonyl having up to 12 C atoms, alkoxycarbonyl having up to 12 C atoms, alkylcarbonyloxy having up to 12 C atoms, or alkoxycarbonyloxy group,

L, L¹ and L² are each independently H, F, Cl, CN or an optionally halogenated alkyl, alkoxy, alkylcarbonyl, alkylcarbonyloxy, alkoxycarbonyl or alkoxycarbonyloxy group, in each case having 1 to 7 C atoms, and

r is 0, 1, 2, 3 or 4, and

the phenyl rings in the above formulae are optionally substituted by 1, 2, 3 or 4 groups L.

32. (New): A film according to Claim 7, wherein said polymerised material is obtained from a polymerisable liquid crystal material having a polymerisable component, and said polymerisable component comprises at least 12 mol % of photoisomerisable compounds selected from formulas III, IV and V.

33. (New): A film according to claim 32, wherein said polymerisable component comprises 80 to 100 mol % of photoisomerisable compounds selected from formulas III, IV and V.

34. (New): A film according to claim 32, wherein said polymerisable component comprises 50 to 70 mol % of photoisomerisable compounds selected from formulas III, IV and V.

35. (New): A film according to claim 1, wherein said film has a thickness of 0.6 to 2 microns.

36. (New): A film according to claim 1, wherein said film has a thickness of 0.7 to 1.5 microns.

37. (New): A film according to claim 1, wherein said film has an on-axis retardation, at 0° viewing angle, of from 60 nm to 400 nm.

38. (New): A film according to claim 1, wherein said film has an on-axis retardation, at 0° viewing angle, of from 100 nm to 350 nm.

39. (New): A film according to claim 8, wherein said polymerised material is obtained from a polymerisable nematic or smectic liquid crystal material and said polymerisable liquid crystal material comprises at least one di- or multireactive achiral, polymerisable mesogenic or liquid crystal compound and optionally one or more than one monoreactive achiral polymerisable mesogenic or liquid crystal compound.